

IN THE CLAIMS

Please cancel claims 1, 3, 6, 7, 9, 12-14, 25, 27, 28 and 37-41. Please amend claims 2, 4, 5, 8, 10, 11, 15-24, 26 and 29-36, and add new claims 42-73 as follows:

*A2*  
2. (amended) The method as recited in claim 46 [1] wherein the at least first and second components of ten or more materials interact with each other before or upon coming into contact with said substrate.

*A3*  
4. (amended) The method as recited in claim 42 [1] wherein the first and second [said] components of a material are delivered to a region of the [said] substrate in parallel.

*A4*  
5. (amended) The method as recited in claim 42 [1] wherein the first and second [said] components of a material are delivered to a region of the [said] substrate sequentially.

*A4*  
8. (amended) The method as recited in claim 42 [1] wherein the at least ten different [said first and second] materials differ in a manner selected from the group consisting of composition, stoichiometry and thickness.

*A5*  
10. (amended) The method as recited in claim 42 [1] wherein the [said] first components of the at least ten different materials [said first material and said first component of said second material] are the same, but are delivered [offered] in different amounts.

*A6*  
11. (amended) The method as recited in claim 42 [1] wherein the [said] second components of the at least ten different materials [said first material and said second component of said second material] are the same, but are delivered [offered] in different amounts.

15. (amended) The method as recited in claim 42 or 43 [1] wherein the [said]

array comprises at least 20 different materials comprising two or more layers.

16. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 50 different materials comprising two or more layers.

17. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 100 different materials comprising two or more layers.

18. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 500 different materials comprising two or more layers.

19. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 1000 different materials comprising two or more layers.

20. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 10,000 different materials comprising two or more layers.

21. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 100,000 different materials.

22. (amended) The method as recited in claim 42 or 43 [1] wherein the [said] array comprises at least 1,000,000 different materials.

23. (amended) The method as recited in claim 42 [1] further comprising physically masking the substrate while delivering one or more components to a region of the substrate [wherein said components are delivered using a delivery technique involving the use of a physical mask].

24. (amended) The method as recited in claim 42 [1] wherein the [said] components of the ten or more materials are delivered using a delivery technique selected from the group consisting of sputtering techniques, spraying techniques, laser

5 ablation techniques, electron beam evaporation techniques, thermal evaporation techniques, ion-beam techniques, ion implantation techniques, doping techniques, chemical vapor deposition [(CVD)] techniques and liquid dispensing techniques.

A7 26. (amended) The method as recited in claim 43 [25] wherein said useful property is selected from the group consisting of electrical, thermal, mechanical, morphological, optical, magnetic and chemical properties.

29. (amended) The method as recited in claim 43 [27] further comprising determining the [wherein a] relative performance of [each of said] the at least ten different materials [can be determined] with respect to the [a] useful property [of said materials].

A8 30. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 3 or more components.

31. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 4 or more components.

32. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 5 or more components.

33. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 6 or more components.

34. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 7 or more components.

35. (amended) The method as recited in claim 42 or 43 [1] wherein the at least ten different materials [the first material] comprise[s] 8 or more components.

*Wittig A*  
*B2*  
36. (amended) The method as recited in claim 42 or 43 [1] wherein each of the ten or more materials [the second material] comprises 3 or more components.

*Bob*  
-- 42. (new) A method for making an array of diverse materials, the method comprising forming ten or more materials comprising two or more layers on ten or more regions of a substrate, respectively, at least ten of the materials being different from each other and being formed by a method that comprises delivering at least first and second components of the materials to the respective regions of the substrate, the substrate comprising a sufficient amount of space between the ten or more regions such that the delivered components do not substantially interdiffuse between the ten or more regions of the substrate.

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*A9*  
5 43.(new) A method for evaluating an array of diverse materials, the method comprising

making an array comprising ten or more different materials according to the method of claim 42, and

screening the at least ten different materials for a useful property of interest.

44. (new) The method of claim 42 or 43 wherein the at least ten different materials consist essentially of a layer

45. (new) The method of claim 42 or 43 wherein the at least ten different materials comprise layers of the delivered components of the materials.

46. (new) The method of claim 42 or 43 wherein the method for forming the at least ten different materials further comprises allowing two or more components of the at least ten different materials to interact.

47. (new) The method of claim 46 wherein the components interact by reacting, intermingling, interdiffusing, interspersing, doping, implanting, interpenetrating, condensing or fusing.

48.(new) The method of claim 46 wherein the components interact, without reaction, by intermingling, interdiffusing, interspersing, doping, implanting, interpenetrating, condensing or fusing.

49.(new) The method of claim 46 wherein the two or more components of the materials react to form the materials.

50.(new) The method of claim 46 further comprising determining the relative performance of the first and second materials with respect to the property of interest.

51.(new) The methods of claims 42 or 43 wherein the density of the ten or more material-containing regions is greater than about 1 region per 25 cm<sup>2</sup>.

52.(new) The method of claims 42 or 43 wherein the density of the ten or more material-containing regions is greater than about 1 region per 10 cm<sup>2</sup>.

53.(new) The method of claim 42 or 43 wherein twenty or more different materials comprising two or more layers are formed on twenty or more distinct regions of the substrate, the density of the twenty or more material-containing regions being greater than about 1 region per cm<sup>2</sup>.

54.(new) The method of claim 42 or 43 wherein one hundred or more different materials comprising two or more layers are formed on one hundred or more distinct regions of the substrate, the density of the one hundred or more material-containing regions being greater than about 1 region per cm<sup>2</sup>.

55.(new) The method of claim 42 or 43 wherein one thousand or more different materials comprising two or more layers are formed on one thousand or more distinct regions of the substrate, the density of the one thousand or more material-containing regions being greater than about 10 regions per cm<sup>2</sup>.

56.(new) The method of claim 42 or 43 wherein ten thousand or more different materials comprising two or more layers are formed on ten thousand or more distinct regions of the substrate, the density of the ten thousand or more material-containing regions being greater than about 100 regions per cm<sup>2</sup>.

57.(new) The method of claims 42 or 43 wherein ten or more different materials are inorganic materials.

58.(new) The method of claims 42 or 43 wherein ten or more different materials are intermetallic materials.

59.(new) The method of claims 42 or 43 wherein ten or more different materials are metal alloys.

60.(new) The method of claims 42 or 43 wherein ten or more different materials are ceramic materials.

61.(new) The method of claims 42 or 43 wherein ten or more different materials are organic materials.

62.(new) The method of claims 42 or 43 wherein ten or more different materials are non-biological organic polymers.

63.(new) The method of claims 42 or 43 wherein ten or more different materials are organometallic materials.

64. (new) The method of claims 42 or 43 wherein ten or more different materials are solid materials.

65.(new) The method of claims 42 or 43 wherein ten or more different materials

comprise three or more layers.

66. (new) The method of claim 24 wherein the components are delivered using electron beam evaporation techniques.

67. (new) The method of claim 42 or 43 wherein the ten or more different materials comprise layers of two or more components, at least one of the components being different between the ten or more materials, and at least one of the components being the same between the ten or more materials.

68. (new) A method for making an array of diverse materials, the method comprising

forming ten or more solid materials comprising two or more layers on ten or more regions of a substrate, respectively, at least ten of the materials being different from each other and being formed by a method that comprises delivering at least first and second components of the materials to the respective regions of the substrate.

69. (new) A method for evaluating an array of diverse materials, the method comprising

making an array comprising ten or more different materials as set forth in claim 68, and

screening the at least ten different materials for a useful property of interest.

70. (new) A method for making an array of diverse materials, the method comprising

forming ten or more materials comprising two or more layers on ten or more regions of a substrate, respectively, at least ten of the materials being different from each other, and being formed by a method that comprises delivering at least first and second components of the materials to the respective regions of the substrate, at least one of the delivered components being an inorganic material.

*John B. Crst*

71. (new) A method for evaluating an array of diverse materials, the method comprising  
making an array comprising ten or more different materials as set forth in claim  
70, and  
5 screening the at least ten different materials for one or more useful properties of interest.

*John B. Crst*

5 72.(new) A method for making an array of diverse materials, the method comprising  
forming one hundred or more solid inorganic materials comprising three or more layers on one hundred or more regions of a substrate, respectively, at least one hundred of the materials being different from each other and being formed by a method that comprises delivering at least first and second components of the materials to the respective regions of the substrate, the substrate comprising the at least one hundred material-containing regions at a density of greater than about 1 region per  $\text{cm}^2$ , the substrate further comprising a sufficient amount of space between the at least one hundred material-containing regions such that the delivered components do not substantially interdiffuse between the at least one hundred material-containing regions of the substrate.

10 73. (new) A method for evaluating an array of diverse materials, the method comprising  
making an array comprising one hundred or more different materials as set forth in claim 72, and  
5 screening the at least one hundred different materials for one or more properties selected from the group consisting of electrical, thermal, mechanical, morphological, optical, magnetic and chemical properties. --

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**REMARKS**

Applicants respectfully request reconsideration and further examination of the present application.